



Colorado Department  
of Public Health  
and Environment

## Permit Application for New Housed Commercial Swine Feeding Operations

This is the Colorado Discharge Permit System (CDPS) application for a permit to operate a new housed commercial swine feeding operations (HCSFO) in the State of Colorado. This permit application encompasses water quality requirements only.

**Application Due Dates:** The owner (or operator if the owner does not operate the facility) of the facility shall submit an application as provided by the Environmental Agriculture Program at least 180 days prior to beginning construction.

**Application Completeness:** The owner must complete all items of the application accurately and in their entirety or the Ag Program will deem the application incomplete and will not begin processing of the permit until all information is received. If you have questions on completing this application, you may contact the Ag Program at (303) 692-3520. The owner shall submit one copy of the completed application in a three-ring binder by certified mail or hand delivery to:

Environmental Agriculture Program  
Colorado Department of Public Health and Environment  
DEHS-B2  
4300 Cherry Creek Drive South  
Denver, Colorado 80246-1530

**Annual Fee:** An annual permit fee, based upon the design capacity of the operation, is specified in state statute and will be collected by the Division of Environmental Health and Sustainability Do not send any payment with this application. You will be billed once you are covered under a permit.

**Transfer of Ownership:** If the operation ownership changes, the permittee can obtain a transfer of ownership form by contacting the Ag Program at (303) 692-3520. After receipt of the completed transfer of ownership form, the Ag Program will issue a new permit reflecting the ownership change.

If a company is changing its name only, and all other procedures and information as stated in the last submitted permit application or modification remains unchanged, submit a letter from the owner explaining the name change.

## WATER RIGHTS

The State Engineers Office (SEO) has indicated that housed commercial swine feeding operations must comply with all terms and conditions of applicable water rights and well permits utilized in the housed commercial swine feeding operation. Any discharge that does not return water directly to surface waters (i.e. land application) has the potential for material injury to a water right. As a result, the SEO needs to determine that material injury to a water right will not occur from such activities. To make this judgment, the SEO requests that the owner submit a copy of all documentation demonstrating that the requirements of Colorado water law have been met to the SEO's office for review. The owner should make the submittal as soon as possible to the following address:

Colorado Division of Water Resources  
1313 Sherman Street, Room 818  
Denver, Colorado 80203

Should there be any questions on the issue of water rights, the SEO can be contacted at (303) 866-3447 (hours 10-3:30, M-F). It is important to understand that any CDPS permit issued by the Ag Program **does not constitute a water right. Issuance of a CDPS permit does not negate the need to also have the necessary water rights in place.** It is also important to understand that even if the activity has an existing CDPS permit, this is no guarantee that the proper water rights are in place.

<p align="center"><b>COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT</b></p> <p align="center"><b>ENVIRONMENTAL AGRICULTURE PROGRAM NEW PERMIT APPLICATION</b></p> <p align="center"><b>HOUSED COMMERCIAL SWINE FEEDING OPERATIONS</b></p>	<b>FOR AGENCY USE ONLY</b>									
	<b>WATER PERMIT NUMBER</b>									
	<b>DATE RECEIVED</b>									

For information on electronic copies, please contact the Colorado Department of Health and Environment, Environmental Agriculture Program at (303) 692-3520. <http://colorado.gov/cdphe/cafos>

**Please print or type.** Please read application form thoroughly before completing. Complete Sections 1, 2 and 3a. of the permit application for each facility site. This form may be reproduced as necessary.

## **New Application**

### **1. Name and Address of Permit Applicant:**

Company Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Legal Agent of Service: \_\_\_\_\_

Phone Number: (     ) \_\_\_\_\_ Fax Number: (     ) \_\_\_\_\_

Email: \_\_\_\_\_

Federal Tax (Taxpayer or Employer) Identification Number: \_\_\_\_\_

Local Contact (familiar with facility): \_\_\_\_\_

Title: \_\_\_\_\_ Phone Number: (     ) \_\_\_\_\_ Fax Number: (     ) \_\_\_\_\_

Email: \_\_\_\_\_

### **2. Facility Information:**

Name of facility: \_\_\_\_\_

Physical Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

County: \_\_\_\_\_

Facility Contact (if different than local contact above): \_\_\_\_\_

Title: \_\_\_\_\_ Phone Number: (     ) \_\_\_\_\_ Fax Number: (     ) \_\_\_\_\_

Email: \_\_\_\_\_

### 3. Facility Description

In the table below describe the capacity of each portion of the swine rearing operation below.

Include the type of operations (i.e. nursery, finisher, sow, boar) and the facility capacity. **Note:** Housed Commercial Swine Feeding Operations are considered to be capable of housing 800,000 pounds of live animal weight if they have capacity to house: a) 11,500 or more weaned swine weighing less than 70 pounds; b) 3,020 or more feeder swine weighing more than 70 pounds but less than finish weight; or c) 2,000 or more breeding sows or boars.

Operation	Capacity		
	Number of Barns	Number of Animals	Total Live Animal Weight (pounds)
Nursery			
Finisher			
Sow			
Boars			
Other (specify)			

## 4. Legal Location

In the table below include all rearing units, treatment units and/or impoundments, storage facilities, truckwash facilities (if wastewater from truckwash enters swine facility impoundment(s), and land application sites (with associated acreage) that are either owned or operated by the applicant, or operated under contract or agreement with third parties. If any portion of the operation is located on State Trust Lands, indicate in the table below with an asterisk (\*). Identify each by quarter section, section, Township, Range, and County. Also, locate by latitude/longitude all treatment units or impoundments, and storage facilities. Accuracy is important. Attach additional sheets as necessary.

[illegible]

\*\* Housing, impoundment, land application site, truck wash facility (if wastewater from truck wash enters swine facility impoundment(s)), etc.

**Method used for determining latitude/longitude:** (USGS map, GPS unit, etc.): \_\_\_\_\_

## 5. Site Plan Map

Show on the facility site plan map the specific location of the production area.

(**"PRODUCTION AREA"** means that part of an animal feeding operation that includes the animal confinement area, the manure and residual solids storage area, the raw materials storage area, and the waste containment areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure and residual solids storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments and tanks, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.)

## 6. Land Application Acreage:

Total number of acres under the control of the applicant available for land application of residual solids or swine feeding process wastewater: \_\_\_\_\_

## 7. Facility Impoundment Information:

Provide the following information for each impoundment at the facility.

Impoundment ID				
a. Impoundment Type (primary, secondary, tertiary, etc.)	a.	a.	a.	a.
b. Length, Width, Depth	b.	b.	b.	b.
c. Storage Capacity at Freeboard (gallons)	c.	c.	c.	c.
d. Liner Type (clay, HDPE, etc.)	d.	d.	d.	d.
e. Date Constructed	e.	e.	e.	e.

## 8. Residual Solids and Wastewater Generation:

If applicable, type of containment for residual solids and the total capacity (tons): \_\_\_\_\_

(**"RESIDUAL SOLIDS"** means manure, solids separated from swine feeding process wastewater, sludges derived from impoundments or tanks used to store or treat swine feeding process wastewater, solids derived from treatment of swine feeding process wastewater by means of other than impoundments or tanks, and composted solids.)

Estimated amounts of residual solids and swine feeding process wastewater generated per year:  
(tons/gallons): \_\_\_\_\_

Estimated amounts of residual solids and swine feeding process wastewater transferred to other persons per year:  
(tons/gallons): \_\_\_\_\_

## 9. Plan Information

### a. Construction Plan

A construction plan that incorporates the following elements must be submitted with the permit application. Facility designs for new housed commercial swine feeding operations must be prepared under the supervision of a professional engineer registered in the State of Colorado.

- i) **Site Plan.** A USGS 7.5-minute quadrangle topographic map or comparable map of the facility must be submitted. The map must include the following information:
  - (1) All swine feeding process wastewater collection systems in housed units and any swine feeding process wastewater conveyance, treatment, storage, and land application facilities and contiguous property for each site presently owned or utilized by the applicant (identify any such areas located on State Trust Lands);
  - (2) All areas located within one mile of the facility which are established by the Colorado Water Conservation Board as subject to flooding by a 100-year event;
  - (3) All occupied dwellings, public and private schools, and incorporated municipalities located within one mile of the facility;
  - (4) All private and/or community water supply wells located within one mile of any impoundments or land application areas;
  - (5) Any surface water features including any wetlands, streams and reservoirs which are located within one mile of the facility or land application areas;
  - (6) Date of map; and,
  - (7) North arrow
- ii) **Design Calculations.** Calculations demonstrating compliance with applicable design and construction criteria must be submitted. Applicable criteria include:
  - (1) Evaporation impoundments are of sufficient capacity to retain the maximum design volume of swine feeding process wastewater produced during the continuous ten-year period of minimum net evaporation based on the entire period of record (submit with the design calculations a water budget analysis utilizing pan evaporation rates);
  - (2) For non-land-application facilities: documentation that the operation is capable, for the term of the permit, of continuous operation without land application of swine feeding process wastewater or residual solids at any on-site or off-site location or the discharge of swine feeding process wastewater to surface waters;
  - (3) Any impoundments which are used to treat, store or evaporate swine waste process wastewater shall have at least two feet of freeboard above the working liquid level;
  - (4) Information showing that swine waste process wastewater collection systems in housed units, swine waste process wastewater conveyance systems, and impoundments which are used to treat, store or evaporate swine waste process wastewater have been or will be constructed and maintained such that the seepage rate from any such system or impoundment does not exceed  $1 \times 10^{-6}$  cm/sec ( $1 \times 10^{-7}$  cm/sec if located on State Trust Lands);
  - (5) Any reduction in swine feeding process wastewater pollutant concentrations as a result of treatment must be supported by site-specific data or applicable published engineering or agricultural waste management principles and must include consideration of any applicable odor control requirements; and
  - (6) Facilities for storage of swine waste process wastewater shall be provided to account for periods during which land application cannot occur and to be capable of containing liquid residual solids and swine feeding process wastewater, including the runoff resulting from a 25-year, 24-hour storm. The applicant shall provide capacity to store the peak volume of swine feeding process wastewater that will be generated during a six-month period. Alternately, for existing source facilities, the volume of storage to be provided may be based on a site-specific analysis. This analysis shall account for: the peak volume and concentration of swine feeding process wastewater that will be generated during an identified period, seasonal plant nutrient uptake rates, and appropriate climatic data.
  - (7) The calculations show storage for (check one):
    - ☐ Storage for Six-Month Period
    - ☐ Storage for Alternative Period (Attach site specific analysis)
    - ☐ Evaporation

- iii) **Construction Plans and Specifications.** Attach as-built construction plans and specifications, or submit for Division approval, information that is equivalent to as-builts for swine feeding process wastewater conveyance, storage, treatment, and land application systems. To the extent practicable, plans and specifications shall include, or be supplemented with:
- (1) Construction and installation procedures for the waste collection systems in the housed units, and the waste conveyance, storage, treatment, and land application systems.
  - (2) Method used to convey and transport the swine waste to the land application sites.
  - (3) Documentation that liner materials used in the construction of impoundments for treatment, storage, or evaporation of swine feeding process wastewater meet a seepage rate of  $1 \times 10^{-6}$  cm/sec ( $1 \times 10^{-7}$  cm/sec for facilities located on State Trust Lands), or for proposed new impoundments assurances that testing will be conducted to assure that materials used in impoundments for the treatment, storage, or evaporation of swine feeding process wastewater meet a seepage rate of  $1 \times 10^{-6}$  cm/sec ( $1 \times 10^{-7}$  cm/sec for facilities located on State Trust Lands).
  - (4) Operating and performance characteristics of mechanical equipment and materials associated with the swine feeding process wastewater and residual solids collection/conveyance, storage, treatment, and land application systems.
  - (5) Demonstrate compliance with the requirement that depth markers shall be installed in all open-surface impoundments and tanks to indicate the design volume (described above) and clearly indicate the two-foot freeboard elevation, and the minimum capacity necessary to contain the runoff and direct precipitation of the 25-year, 24-hour storm event. At a minimum, depth markers should be clearly marked in one (1) foot increments.

**b. Operations Plan**

An Operations Plan that incorporates the following elements must be submitted with the permit application.

- i) Procedures for the operation and maintenance of swine feeding process wastewater collection systems in housed units and swine feeding process wastewater and residual solids conveyance, treatment, storage, and land application systems to ensure their continued functionality, including periodic inspection procedures to ensure their physical and mechanical integrity.
- ii) Procedures to address spills and prevention of contamination due to equipment or structural failure and power outages.
- iii) Procedures to ensure that surface and ground water quality is not impacted as a result of storage or disposal of dead animals.
- iv) Provide for compliance with the following:
  - (1) Accumulations of solids shall be removed from the swine feeding process wastewater treatment, storage, and evaporation impoundments as necessary to ensure sufficient capacity to retain all swine feeding process wastewater produced during periods when land application or disposal operations cannot be conducted due to conditions which may preclude land application.
  - (2) Residual solids stockpile areas shall be constructed to ensure that all precipitation which comes in contact with the stockpile is captured and diverted to appropriate swine feeding process wastewater treatment or evaporation facilities.
  - (3) Swine feeding process wastewater collection systems in housed units and swine feeding process wastewater conveyance systems shall be operated and maintained to collect and convey peak flows without overflowing.
  - (4) No land application of residual solids or swine feeding process wastewater shall occur on lands which are saturated or on land with a snow depth of greater than one inch.
  - (5) No land application of residual solids or swine feeding process wastewater shall occur on lands which are frozen unless a site-specific analysis demonstrates that runoff will not occur.
  - (6) Land application of residual solids and swine feeding process wastewater shall not occur:
    - (a) More than 30 days prior to or subsequent to the normal growing season for the crop to which the wastewater is being applied; or
    - (b) Outside of the period March 1 through October 31, whichever is less restrictive, except pursuant to approved odor management, swine waste management, and monitoring plans.
  - (7) Removal of solids or swine feeding process wastewater from an impoundment shall be accomplished in a manner that does not damage the integrity of the liner.

- (8) Operations shall be conducted in a manner that does not result in contamination of ground water or a discharge to surface water not specifically authorized by the permit.
- (9) Non-land-application facilities must identify a method of disposal of residual solids and swine feeding process wastewater other than by on-site or off-site land application. Such facilities shall also demonstrate that no discharge to surface waters will occur.
- (10) Weekly inspections shall be made in the production area of all freshwater run-on diversion devices, devices channeling contaminated storm water to impoundments or tanks, runoff diversion structures, and impoundments and tanks. Such inspections of impoundments and tanks shall note the level of swine feeding process wastewater as indicated by the depth marker.
- (11) Daily inspections shall be made of water lines in the production area, including drinking water or cooling lines. Any deficiencies found as a result of the daily and weekly inspections identified in the above two bullets, shall be corrected as soon as possible, but no later than 30 days of such a deficiency having been identified, unless factors preventing correction within 30 days have been documented.
- (12) The owner or operator shall periodically inspect equipment used for land application of residual solids or swine feeding process wastewater.
- (13) Mortalities must not be disposed of in any liquid residual solids or swine feeding process wastewater system must be handled in such a way as to prevent the discharge of pollutants to surface water, unless an alternative performance standard is approved by the Division that includes a technology designed to handle mortalities.
- (14) If applicable, operations that introduce swine feeding process wastewater pollutants into publicly owned treatment works (POTW) must comply with 40 CFR 403.
- (15) If applicable, the owner or operator of a housed commercial swine feeding operation may voluntarily request the Division to establish alternative Colorado Discharge Permit System effluent limitations based upon the operation's proposed use of site-specific alternative technologies. The request shall include the information specified in subsection 61.13(4)(d)(xvii)(A).

Request Submitted: ☐ YES ☐ NO

### c. **Swine Waste Management Plan**

A Swine Waste Management Plan that incorporates the following elements must be submitted with the permit application. The plan shall be prepared under the supervision of a professional engineer registered in the State of Colorado, by the Natural Resources Conservation Service, by a qualified Cooperative Extension Agent, by a certified crop advisor certified by the American Society of Agronomy or by an independent crop consultant certified by the National Alliance of Independent Crop Consultants.

- i) Daily, seasonal, and annual quantities and/or flow rates of residual solids and swine feeding process wastewater to be applied to the land area.
- ii) Concentrations of specific constituents including, but not limited to, nitrogen, phosphorus, heavy metals, and salts present in the residual solids or swine feeding process wastewater as a result of the housed commercial swine feeding operation.
- iii) Climatic conditions, including temperature and precipitation regime, as they may seasonally affect the plants' ability to uptake nutrients and other constituents present in the wastewater.
- iv) Soil types in the land application sites.
- v) Documentation which supports any post-treatment reduction in waste concentration(s) prior to land application.
- vi) Identify the crops to be planted in each field, or any other uses such as pasture or fallow fields. Identify alternative crops that are not in the planned crop rotation for each field. Identify the realistic yield goal for each crop and alternative crop for each field.
- vii) The specific land parcels and acreage to receive the residual solids and swine feeding process wastewater and a demonstration that adequate and suitable land is available upon which to land apply the residual solids and swine feeding process wastewater in accordance with the agronomic rate of application.
- viii) A description of residual solids, swine feeding process wastewater, and soil sampling analyses to be performed and the interpretive analytical procedures to determine application rates.
- ix) A description of the planned method of residual solids and swine feeding process wastewater land application, disposal, or other usage, and surface water runoff controls that will be implemented to prevent wastes from being discharged to waters of the state or beyond the property boundary of the land application site.

- x) A description of how the permittee will ensure adequate storage of residual solids and swine feeding process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities.
- xi) A description of how animal mortalities will be managed to ensure that they are not disposed of in any liquid residual solids or swine feeding process wastewater system that is not specifically designed to treat animal mortalities, and are handled in such a way as to prevent the discharge of pollutants to surface waters.
- xii) Indicate how the permittee will ensure that clean water is diverted, as appropriate, from the production area.
- xiii) Indicate how swine will be prevented from having direct contact with surface water.
- xiv) A description of how chemicals and other contaminants handled on-site are not disposed of in any residual solids or swine feeding process wastewater storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
- xv) Identify specific records that will be maintained to document the implementation and management of the elements required in Regulation subsections 61.13(3)(f)(vii) through (xiv).
- xvi) Feed management practices employed, if any, to reduce nutrient concentrations in swine feeding process wastewater or residual solids.
- xvii) If swine waste is to be applied on property not owned by the permit applicant, written agreements with landowners for off-site land application must be included in the plan. Agreements must: 1) allow the Division or its agent to assume the rights of the permittee under the agreement in the event that a facility must be brought to final closure by the state unless alternative treatment and disposal are provided under the financial assurance plan; and 2) provide notice to each landowner of property on which off-site land application occurs of the Division's authority to enter and inspect premises pursuant to section 25-8-306, C.R.S.

**d. Monitoring Plan**

A Monitoring Plan that incorporates the following elements must be submitted with the permit application.

- i) A description of the standard operating procedures and monitoring methods for soil sampling, effluent and residual solids sampling, and groundwater sampling. Where the plan does not include quarterly sampling of groundwater beneath each land application site, soils within the agronomic root zone, or soils within the monitoring zone, the plan shall include documentation that this sampling frequency is not practicable.
- ii) Land application practices shall be managed to ensure that no residual solids or swine feeding process wastewater are discharged to waters of the state or beyond the property boundary of the application site.
- iii) For each land application site, baseline information which establishes concentrations of nitrate-nitrogen and ammonium-nitrogen in soils from four feet to six feet for shallow-rooted crops, and from six feet to eight feet for deep-rooted crops and sandy soils. Information shall also be provided which establishes the concentrations of phosphorus in the top one-foot increment of soil in each land application site.
- iv) Monitoring methods to be used to ensure that no seepage occurs from any waste impoundment(s) in excess of  $1 \times 10^{-6}$  cm/sec, or for states lands,  $1 \times 10^{-7}$  cm/sec.
- v) Where residual solids or swine feeding process wastewater are stored in lined earthen impoundments or land applied, a geo-hydrologic report prepared by a qualified professional geologist or ground water hydrologist must be submitted for each such site. The report must include:
  - (1) A description of the lithology of the stratigraphic column from the surface down to the uppermost aquifer(s) encountered at the site(s).
  - (2) The depth to ground water and ground water flow direction at the site(s).
  - (3) The vertical and horizontal conductivity and gradients at the site(s).
  - (4) The amount of annual ground water recharge from precipitation and irrigation.
  - (5) Established baseline ground water quality at locations and for parameters to be determined in consultation with the Division.
  - (6) The locations and uses of all existing wells and springs within a one mile radius of the proposed site(s).
  - (7) Information which establishes whether there is a direct hydrologic connection between the groundwater under the site(s) and adjacent surface waters.
  - (8) Map(s) and narrative descriptions of the proposed groundwater monitoring wells, including locations, depths and perforated intervals.

- vi) For operations located on state trust lands:
  - (1) For each land application site, baseline concentrations of nitrogen, phosphorus, heavy metals and salts from four-feet to six-feet for shallow-rooted crops, and from six-feet to eight-feet for deep-rooted crops and sandy soils.
  - (2) Baseline concentrations of nitrogen, phosphorus, heavy metals and salts in the groundwater.
  - (3) Background information which describes the existing plant communities in the immediate vicinity of the operation, but which have not been impacted by the operation.
  - (4) Sampling, analysis and interpretive assessment methods and procedures to allow for a demonstration by the owner/operator of the operation that soil within the monitoring zone and groundwater have not been contaminated above the established baseline or background conditions established in (1), (2), and (3) above.

**e. Financial Assurance Plan.**

A Financial Assurance Plan that incorporates the following elements must be submitted with the permit application.

- i) Cost estimates for final closure of the operation and any post-closure activities including, but not limited to, continuing maintenance and monitoring activities. Cost estimates shall take into account site-specific risk factors including, but not limited to, soils composition, hydrology, vegetation, climatic conditions and ambient levels of constituents of concern.
  - (1) Written itemized cost estimates for hiring a third party to close the operation and to conduct any necessary post-closure activities assuming, at the time closure, that the operation is operating at the maximum capacity anticipated during the term of the permit. Cost estimates shall be prepared under the supervision of a professional engineer registered in the State of Colorado and shall include, but not be limited to: removal and proper disposal of residual solids and swine feeding process wastewater from collection systems in housed units and conveyance, treatment and storage facilities; removal and proper disposal of any stockpiles; revegetation of the site and other actions necessary to assure long-term protection of water quality.
  - (2) For operations located on state trust lands, written itemized cost estimates for hiring a third party to perform closure and post-closure activities for the operation, including revegetation of the site in a manner that prevents erosion.

**10. Permit Application Certification:**

**a. Certification Instructions.** Application must have an original signature to be processed. The application shall be signed as follows:

- ☐ In the case of corporations, by a principal executive officer of at least the level of vice-president or his or her duly authorized representative, if such representative is responsible for the over-all operation of the facility from which the discharge described in the application originates.
- ☐ In the case of a partnership, by a general partner.
- ☐ In the case of a sole proprietorship, by the proprietor.

**b. Certification Statement.**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

\_\_\_\_\_  
SIGNATURE OF OWNER(S)

\_\_\_\_\_  
DATE

\_\_\_\_\_  
NAME (PRINTED)

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
SIGNATURE OF OPERATOR

\_\_\_\_\_  
DATE

\_\_\_\_\_  
NAME (PRINTED)

\_\_\_\_\_  
TITLE